

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently amended) An apparatus for hemodialysis, hemodiafiltration, hemofiltration or peritoneal dialysis, comprising:

a plurality of inlets configured to introduce different matters to be mixed with each other;

at least one conduit in which a dialysis and/or infusion configured to convey a fluid is intended to flow to one of the inlets; and, comprising

a measurement unit for measuring at least one substance [[in]] of said fluid in the conduit before the fluid is mixed with the different matters introduced through said plurality of inlets, said substance being optically active, wherein the measurement unit is arranged configured to measure the concentration of said substance in said fluid by measuring the influence of said substance on a polarized beam of light transmitted through said fluid.

2. (Cancelled)

3. (Currently amended) An apparatus according to claim [[2]]1, wherein said plurality of inlets include a first inlet for introducing the fluid to be measured into the apparatus and a plurality of other inlets, said measurement unit being configured to measure the concentration of said substance in said fluid before said fluid, ~~that is~~ introduced via said first inlet, is to be mixed in the apparatus with any other different matters introduced via ~~another of~~ said plurality of other inlets.

4. (Previously presented) An apparatus according to claim 1, wherein said measurement unit is designed to measure a concentration of said substance above 100 g/l.

5. (Previously presented) An apparatus according to claim 1, wherein said measurement unit is designed to measure the concentration of a sugar in said fluid.

6. (Previously presented) An apparatus according to claim 5, wherein said sugar is glucose.

7. (Previously presented) An apparatus according to claim 1, further comprising means arranged to generate a warning signal if the measured concentration of said substance in said fluid does not fulfill a predetermined requirement.

8. (Previously presented) An apparatus according to claim 1, further comprising an at least partly transparent conduit in said apparatus or at an inlet to said apparatus, said transparent conduit being configured to carry the fluid to be measured, wherein said measurement unit is configured to produce a polarized beam of light that is passed through the fluid to be measured at said at least partly transparent conduit.

9. (Previously presented) An apparatus according to claim 1, wherein said measurement unit is arranged to provide a plane-polarized beam of light.

10. (Currently Amended) An apparatus according to claim 9, wherein said measurement unit further comprises a measurement device to measure an entity, said entity indicating the angle at which the plane of polarization of said polarized beam of light has rotated when said polarized beam of light has passed through the fluid.

11. (Previously presented) An apparatus according to claim 10, wherein said measurement device comprises a light intensity detector.

12. (Previously presented) A system comprising an apparatus according to claim 1, further comprising a container housing a fluid, wherein the container is connected to the apparatus to allow the fluid housed in the container to be fed to the apparatus, and said measurement unit is arranged to measure the concentration of said substance in the fluid fed from the container.

13. (Previously presented) A system according to claim 12, wherein the container includes at least first and second compartments having contents, the contents of the first and second compartments being mixed before the fluid leaves the container.

14. (Previously presented) A system according to claim 12, wherein said container is a flexible fluid bag.

15. (Previously presented) A system according to claim 12, wherein the concentration of said substance in said container is at least 100 g/l.

16. (Withdrawn) A method for carrying out a measurement of the concentration of an optically active substance in a dialysis and/or infusion fluid, comprising the steps of:

feeding a fluid to and/or through an apparatus for hemodialysis, hemodiafiltration, hemofiltration or peritoneal dialysis;

providing a polarized beam of light;

transmitting said polarized beam of light through said fluid; and

detecting the influence of said substance on the polarized beam of light which is passed through the fluid to measure the concentration of said substance in the fluid.

17. (Withdrawn) A method according to claim 16, wherein said substance is a sugar.

18. (Withdrawn) A method according to claim 17, wherein said sugar is glucose.

19. (Withdrawn) A method according to claim 16, wherein said fluid is a concentrate that is to be mixed with other substances and/or diluted in said apparatus, said concentration measurement on said fluid being made before the fluid is mixed with other substances and/or diluted in said apparatus.

20. (Withdrawn) A method according to claim 16, wherein said fluid is fed to said apparatus from a container.

21. (Withdrawn) A method according to claim 20, wherein said container includes at least first and second compartments having contents, the contents of the first and second compartments being mixed before the fluid leaves the container.

22. (Withdrawn) A method according to claim 20 or 21, wherein said container is a flexible fluid bag.

23. (Withdrawn) A method according to claim 16, wherein the concentration of said substance in said fluid at the position where the measurement is carried out is at least 100 g/l.

24. (Withdrawn) A method according to claim 16, further comprising the step of generating a warning signal if the measured concentration of said substance in said fluid does not fulfill a predetermined requirement.

25. (Withdrawn) A method according to claim 16, wherein said feeding step further comprises the sub-step of:

feeding said fluid through an at least partly transparent conduit in said apparatus or at an inlet to said apparatus, wherein said polarized beam of light is transmitted through said fluid at said at least partly transparent conduit.

26. (Withdrawn) A method according to claim 16, wherein said polarized beam of light is a plane-polarized beam of light.

27. (Withdrawn) A method according to claim 26, wherein the step of detecting the influence of said substance on the polarized beam of light further comprises measuring an entity indicating the angle at which the plane of polarization of said polarized beam of light has rotated when said polarized beam of light has passed through the fluid.